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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,536	12/05/2003	Toyohiro Nomoto	16869N-102100US	1904
20350	7590	09/15/2006	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			LU, KUEN S	
			ART UNIT	PAPER NUMBER
			2167	

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,536

Applicant(s)

NOMOTO ET AL.

Examiner

Kuen S. Lu

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/05/03, 12/20/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Action is responsive to Applicant's Amendments, filed on July 3, 2006, in which independent claims 1, 5-6, 7 and 9-10 were amended.

1.1. As to Examiner's response to Applicant's arguments, please see "***Response to Arguments***" Section, following the Office Action for Final Rejection (hereafter "the Action"), shown next.

1.2. Please note claims 1-12 are pending.

Information Disclosure Statement

2. The Information Disclosure Statements filed July 3, 2006 and December 20, 2004 have been considered as signed PTO-1449s signed electronically and attached for formality.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3.1. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Arsdale et al. (U.S. Patent Application, 2003/0135480, hereafter "Van Arsdale") in view of Yoshikawa et al. (U.S. Patent Application, 2003/0023758, hereafter "Yoshikawa").

As per claims 1 and 10, Van Arsdale teaches "converting table data of a database" (See Abstract where data in a database is converted from current to a different replacement value).

Van Arsdale does not explicitly teach "separating a data conversion job used for data conversion into a data conversion server job for executing conversion processing on a data conversion server and a storage job for instructing a copy of a table on storage", although Van Arsdale teaches creating a copy of the original table (See Fig. 4, step 406) and convert the data by clearing records of the original table and processing the records in the copy table (See Figs. 5-6, steps 508 and 603).

However, Yoshikawa teaches "separating a data conversion job used for data conversion into a data conversion server job for executing conversion processing on a data conversion server and a storage job for instructing a copy of a table on storage" (See Fig. 12 and [0117]-[0118] where a server including data receiving, data transmitting, data management and data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention was made to combine Yoshikawa's teaching with Van Arsdale

reference by separating jobs performed as different specific sections because both references are directed to an overall data receiving, transmitting and conversion processes where data amount may be huge and a proper separation of jobs performing data conversion from data copying and transmitting would have resulted in a smooth user interface to the systems and the operation of the systems would have been improved because of separate and sequential job flow which would have prevented issues such as mass updates to a plurality of database tables (See BACKGROUND OF THE INVENTION of the references).

The combined teaching of the Yoshikawa and Van Arsdale references further teaches the following:

"executing, by a job execution engine of the data conversion server, the storage job to instruct the storage to copy the table" (See Van Arsdale: Figs. 1, 4 and [0115] where a copy of original table is created in a single processor system, and Yoshikawa: Fig. 12 and [0117]-[0118] where a server including data receiving, data transmitting, data management and data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially); and

"executing, by a job execution engine of the data conversion server, the data conversion server job to perform data conversion of the copied table" (See Figs. 1-2 and [0040] where a table is converted by an updating process based on copy of original table and conversion table in the single processor system, and Yoshikawa: Fig. 12 and [0117]-[0118] where a server including data receiving, data transmitting, data management and

data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially).

As per claim 5, Van Arsdale teaches “a database conversion server for converting a table of a database” (See Fig. 2 and [0040] where a table is converted by an updating process based on copy of original table and conversion table); and “storage for storing the database” (See Fig. 1 and [0030]-[0031] where memory unit is provided as a storage to store database data).

Concerning “database conversion server has table volume mapping information that associates the table of the database with storage information about storage in which the table is stored”, Examiner takes an official notice that storage information of a database table is stored in metadata, such as all_tablespace, all_files and all_tables in Oracle® database management system, where table name is associated with tablespace name, tablespace name is associated with file name and file name contains data storage volume and path information. It is well known to an ordinary skilled in the art that any job refers to data in a database table, including data retrieval or copying, data conversion or updating, requires a mapping of data from a logical unit to its physical storage and the mapping is implicitly performed by the database management system.

Van Arsdale does not explicitly teach “database conversion server comprising the functions of: with reference to the table volume mapping information, separating a data conversion job used for data conversion into a data conversion server job for executing conversion processing on the database conversion server and a storage job for

instructing a copy of the table on the storage", although Van Arsdale teaches creating a copy of the original table (See Fig. 4, step 406) and convert the data by clearing records of the original table and processing the records in the copy table (See Figs. 5-6, steps 508 and 603).

However, Yoshikawa teaches "database conversion server comprising the functions of: with reference to the table volume mapping information, separating a data conversion job used for data conversion into a data conversion server job for executing conversion processing on the database conversion server and a storage job for instructing a copy of the table on the storage" (See Fig. 12 and [0117]-[0118] where a server including data receiving, data transmitting, data management and data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention was made to combine Yoshikawa's teaching with Van Arsdale reference by separating jobs performed as different specific sections because both references are directed to an overall data receiving, transmitting and conversion processes where data amount may be huge and a proper separation of jobs performing data conversion from data copying and transmitting would have resulted in a smooth user interface to the systems and the operation of the systems would have been improved because of separate and sequential job flow which would have prevented issues such as mass updates to a plurality of database tables (See BACKGROUND OF THE INVENTION of the references).

The combined teaching of the Yoshikawa and Van Arsdale references further teaches the following:

“executing, by a job execution engine of the data conversion server, the storage job to instruct a copy of a volume containing the table” (See Figs. 1, 4 and [0115] where a copy of original table is created); and

“executing, by a job execution engine of the data conversion server, the data conversion server job to perform data conversion of the copied table” (See Fig. 2 and [0040] where a table is converted by an updating process based on copy of original table and conversion table).

As per claim 6, Van Arsdale teaches “A database conversion server for converting a table of a database, said database conversion server being connected to storage for storing the database” (See Fig. 1 and Abstract where data in a database is converted from current to a different replacement value under an environment of a single processor and memory upon which database and database management system reside).

Van Arsdale does not explicitly teach “a module configured to separate a data conversion job definition used for data conversion into a data conversion server job definition for executing conversion processing on the database conversion server and a storage job definition for instructing a copy of the table on the storage”, although Van Arsdale teaches creating a copy of the original table (See Fig. 4, step 406) and convert

the data by clearing records of the original table and processing the records in the copy table (See Figs. 5-6, steps 508 and 603).

However, Yoshikawa teaches "a module configured to separate a data conversion job definition used for data conversion into a data conversion server job definition for executing conversion processing on the database conversion server and a storage job definition for instructing a copy of the table on the storage" (See Fig. 12 and [0117]-[0118] where a server including data receiving, data transmitting, data management and data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention was made to combine Yoshikawa's teaching with Van Arsdale reference by separating jobs performed as different specific sections because both references are directed to an overall data receiving, transmitting and conversion processes where data amount may be huge and a proper separation of jobs performing data conversion from data copying and transmitting would have resulted in a smooth user interface to the systems and the operation of the systems would have been improved because of separate and sequential job flow which would have prevented issues such as mass updates to a plurality of database tables (See BACKGROUND OF THE INVENTION of the references).

The combined teaching of the Yoshikawa and Van Arsdale references further teaches the following:

“executing, by a job execution engine of the data conversion server, the storage job to instruct the storage to copy a volume containing the table” (See Van Arsdale: Figs. 1, 3-4 and [0115] where a set of original tables determined to be copied and a copy of each original tables is created in a single processor system, and Yoshikawa: Fig. 12, [0105] and [0117]-[0118] where a server including data receiving, data transmitting, data management and data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially); and

“executing, by a job execution engine of the data conversion server, the data conversion server job to perform data conversion of the copied table” (See Figs. 1-2 and [0040] where a table is converted by an updating process based on copy of original table and conversion table in the single processor system, and Yoshikawa: Fig. 12 and [0117]-[0118] where a server including data receiving, data transmitting, data management and data conversion sections, in which data is received, converted and stored into database tables by the jobs managed to be executed separately and sequentially).

As per claims 2, 7 and 11, concerning “in the step to separate the data conversion job into the data conversion server job and the storage job, with reference to table volume mapping information used to associate the table of the database with storage information about the storage in which the table is stored, the storage information about the storage in which the table is stored is included in information about the storage job”, Examiner takes an official notice that storage information of a database table is stored

in metadata, such as all_tablespaces, all_files and all_tables in Oracle® database management system, where table name is associated with tablespace name, tablespace name is associated with file name and file name contains data storage volume and path information. It is well known to an ordinary skilled in the art that any job refers to data in a database table, including data retrieval or copying, requires a mapping of data from a logical unit to its physical storage and the mapping is implicitly performed by the database management system.

As per claims 3, 8 and 12, Van Arsdale further teaches "said data conversion server job extracts from the table to be converted only fields which need to be converted, and then converts the extracted fields" (See [0138] and [0143] where data from a column of a table is extracted and data is inserted to a table).

As per claim 4, concerning "said data conversion server job refers to the table volume mapping information that associates the table of the database with the storage information about the storage in which the table is stored", Examiner takes an official notice that storage information of a database table is stored in metadata, such as all_tablespaces, all_files and all_tables in Oracle® database management system, where table name is associated with tablespace name, tablespace name is associated with file name and file name contains data storage volume and path information. It is well known to an ordinary skilled in the art that any job refers to data in a database table, including data conversion or updating, requires a mapping of data from a logical

unit to its physical storage and the mapping is implicitly performed by the database management system.

As per claim 9, concerning “when the job execution engine is requested to execute the data conversion server job definition, a copy-from table and a copy-to table are accessed with reference to table volume mapping information used to associate the table of the database with storage information about the storage in which the table is stored”, Examiner takes an official notice that storage information of database tables for copy-from and copy-to is stored in metadata, such as all_tablespaces, all_files and all_tables in the data dictionary of Oracle® database management system, where table name is associated with tablespace name, tablespace name is associated with file name and file name contains data storage volume and path information. It is well known to an ordinary skilled in the art that any job refers to data in a database table, including data conversion or updating, requires a mapping of data from a logical unit to its physical storage and the mapping is implicitly performed by the database management system.

4. The prior art made of record

A. U.S. Patent Application 2003/0135480

D. U.S. Patent Application 2003/0023758

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

B. U.S. Patent Application 2002/0099782

C. U.S. Patent Application 2004/0093222

E. U.S. Patent Application 2002/0099748

F. U.S. Patent Application 2002/0154332

G. U.S. Patent 6,988,134

Response to Arguments

5. The Applicants' arguments filed on July 3, 2006 have been fully considered, for the Examiner's response, please see discussion below.

5.1). At Page 6, concerning 35 U.S.C. § 112, 2nd Paragraph rejection to claims 1, 5-6 and 10, Applicant argued that the rejection should be withdrawn because copied table is not moved from one server to another and there is no missing of essential step.

As to the above argument 5.1) and considering claims as amended and clarified, Examiner respectfully agree and hereby withdraw the rejection.

5.2). At Pages 6-9, concerning 35 U.S.C. § 103 rejection to claims 1-12, Applicant argued that the cited Yoshikawa reference (hereafter "the cited") teaches separate servers to perform data management jobs independently, which is different from claimed invention which utilizes same executing engine to perform data storage and data conversion jobs.

As to the above argument 5.2), Examiner respectfully submits that the argument is valid on the difference of teachings between the cited and claimed invention. However,

Examiner further respectfully submits that separating jobs to be performed by two servers independently is one of many implementations embodied by the cited. Taking consideration of current amendments of the claims, Examiner has cited different section(s) from the cited wherein a system including a single processor was presented in the Action for rejection.

5.3). At Page 7, concerning 35 U.S.C. § 103 rejection to claim 5, Applicant argued that the cited Yoshikawa and Van Arsdale references (hereafter "the cited") fail to teach a server configured to separate a job from another, with reference to table volume mapping information and succeeding executing steps.

As to the above argument **5.3)**, Examiner respectfully submits that the invention as broadly claimed, the cited as interpreted does provide or suggest teaching of the invention. First of all, a job is simply a specified amount of processing performed as a unit by a computer (Please see Page 296, Microsoft® Computer Dictionary, Fifth Edition, Microsoft Press, 2002). It is thus interpreted that data storage and data conversion are different units of processing and are inherently separated. Further, as the invention claimed with reference to table volume mapping information and succeeding executing steps, Examiner took official notice stating that metadata (for example, "dictionary" in Oracle's term) of database management system inherently provides the mapping between table and volume where both are logical implementation and the terms are extremely and broadly applied to applications and interpreted by a skilled ordinary.

5.4). At Page 8, concerning 35 U.S.C. § 103 rejection to claim 10, Applicant argued that the cited Yoshikawa and Van Arsdale references (hereafter "the two cited") fail to teach a program including codes for performing functions for separating a job definition from another, and for requesting job definitions executed accordingly.

As to the above argument **5.4)**, Examiner respectfully submits that the invention as broadly claimed and applies similar rationales as described in items **5.2)** and **5.3)** where each job executed is either explicitly taught by the two cited or by inheritance of database management and computer systems. The cited teaches separate servers and single server under different embodiments. It is also noted that a code is simply a set of computer instructions, based on the Computer Dictionary.

Conclusions

6. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

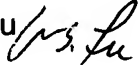
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

Kuen S. Lu 
Patent Examiner, Art Unit 2167
September 8, 2006


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